Curriculum Vita: Dr. Aparna V. Huzurbazar

Contact Information:

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http://www.stat.lanl.gov/ccs6/staff/AHuzurbazar/index.html

Educational History

Ph. D., Statistics, 1994, Colorado State University, Fort Collins, CO.
Dissertation: *Prediction in Stochastic Networks*
Dissertation advisor: Ronald W. Butler.

B.S., Aerospace Engineering, 1988, University of Colorado, Boulder, CO.

B.A., Mathematics, 1988, Claremont McKenna College, Claremont, CA.

Additional Certifications and Continuing Education

Six Sigma Master Black Belt, 2009.

Leadership Training, Franklin Covey, 2008

Creating High Impact Presentations, Dale Carnegie Course, 2008.

Employment History: Principal Positions

2008-   Research Scientist, Statistical Sciences Group Los Alamos National Laboratory, Los Alamos, NM.

- (2008-) Project Lead, Systems MTE, Enhanced Surveillance Campaign

- (2010-) POC for Reliability, B-61 LEP

2007-2008   Technical Staff Member, Statistical Sciences Group, Los Alamos National Laboratory, Los Alamos, NM.

2007-2009   Professor, Department of Mathematics and Statistics, University of New Mexico, Albuquerque, NM. (on leave).

2001-2007   Associate Professor, Department of Mathematics and Statistics, University of New Mexico, Albuquerque, NM.

1996-2001   Assistant Professor, Department of Mathematics and Statistics, University of New Mexico, Albuquerque, NM.

1994-1996   Assistant Professor, Department of Statistics, University of Florida, Gainesville, FL.

1989-1994   Graduate Teaching Assistant, Department of Statistics, Colorado State University, Fort Collins, CO

1986-1988   Database Coordinator, Defense Meteorological Satellite Program, Boulder, CO. Managed the current satellite imagery database with emphasis on software development for noise in digital conversion and estimation of missing data.

Employment History: Concurrent and Visiting Appointments

2009-2011   Adjunct Full Professor, Department of Mathematics and Statistics, University of New Mexico, Albuquerque, NM.

2004-2007   Faculty Affiliate, Los Alamos National Laboratory, Los Alamos, NM. Concurrent appointment.

2001-2007   Adjunct Faculty, RAND Corporation, Santa Monica, CA. Concurrent appointment.

2002-2003   Sabbatical Visitor to the Statistics Group at the RAND Corporation, Santa Monica, CA. Worked with Project AIR FORCE, Aging Aircraft Availability and Operation Costs Project.

Fall, 1999   Visiting Fellow, jointly with the Centre for Mathematics and its Applications, Statistics Science Program, and Dept. of Statistics and Econometrics, Australian National University, Canberra, Australia.

1996-   Statworks: my private consulting enterprise. Provides statistical expertise to local area firms.

1991-1992   Statistical Consultant, Fort Collins, CO. Worked with management consultants for local companies including Hewlett Packard and Kodak.

Awards and Honors

University of New Mexico, College of Arts and Sciences Research Semester Award (1999).

Keynote Speaker, Statistical Society of Australia, Australian Capital Territory Section Meeting, September 1999.

Gunter Starkey Teaching Award, University of New Mexico, 2000.

Course award for *Stochastic Processes with Applications*, Association of American Colleges and Universities, selected for inclusion in National Leadership Resource Database, 2001.

Senior Member, American Society for Quality, 2006.

Elected Member, International Statistical Institute, 2006.

Fellow, American Statistical Association, 2008.

Research Interests

Reliability methodology and applications, Flowgraph models, Bayesian statistics, stochastic processes, applications to biomedical systems, quality control and industrial statistics, biostatistics/survival analysis.

Professional Societies

American Association for the Advancement of Science, American Society for Quality, American Statistical Association, Bernoulli Society, Caucus for Women in Statistics, Institute of Mathematical Statistics, International Biometric Society, International Indian Statistical Association, International Society for Bayesian Analysis, International Statistical Institute, Association for Women in Science.

Publications

Books Authored

Huzurbazar, A.V. (2005). *Flowgraph Models for Multistate Time-to-Event Data.* New York: John Wiley & Sons.

- Software for flowgraph models is available at http://www.math.unm.edu/~aparna/flowgraphmodels.html

Refereed Articles

1. Christensen, R. and Huzurbazar, A.V. (1996). "A Note on Augmenting Resolution III Designs", *The American Statistician*, 50, 175-177.

2. Butler, R.W. and Huzurbazar, A.V. (1997). "Stochastic Network Models for Survival Analysis", *Journal of the American Statistical Association*, 92, 246-257.

3. Huzurbazar, S. and Huzurbazar, A.V. (1999). "Survival and Hazard Functions for Progressive Diseases using Saddlepoint Approximations", *Biometrics*, 55, 198-203.

4. Huzurbazar, A.V. (1999). "Flowgraph Models for Generalized Phase Type Distributions with non-Exponential Waiting Times", *The Scandinavian Journal of Statistics*, 26, 145-157.

5. Huzurbazar, S., and Huzurbazar, A.V. (2000). "Bayesian Models for Progressive Diseases", *Chilean Journal of Statistics*, 17, 29-43.

6. Huzurbazar, A.V. (2000). "Modeling Time-to-Event Data using Flowgraph Models". In *Advances on Methodological and Applied Aspects of Probability and Statistics*, Balakrishnan, N. (ed.). New York: Taylor and Francis, pp. 561-571.

7. Butler, R.W. and Huzurbazar, A.V. (2000). "Bayesian Prediction of Waiting Times in Stochastic Models", *The Canadian Journal of Statistics*, 28, No. 2, 311-325.

8. Huzurbazar, A.V. (2000). "Modeling and Analysis of Engineering Systems Data Using Flowgraph Models", *Technometrics,* 42, 300-306.

9. Yau, C.L., and Huzurbazar, A.V. (2002). "Analysis of Censored and Incomplete Survival Data using Flowgraph Models", *Statistics in Medicine*, 21, No. 23, 3727-3743.

10. Huzurbazar, A.V. (2004). "Modelling Survival Data using Flowgraph Models". In *Handbook of Statistics Volume 23: Advances in Survival Analysis*, Balakrishnan, N., and Rao, C. R. (eds.). Amsterdam: Elsevier, pp. 729-746.

11. Huzurbazar, A.V. (2004). "Multistate Models, Flowgraph Models and Semi-Markov Processes", *Communications in Statistics: Theory and Methods*, 33, 457-474.

12. Huzurbazar, A.V. (2005). "Flowgraph Models". In *The Encyclopedia of Statistics, Volume 3*, 2nd edition, Kotz, S., Johnson, N., Read, C., Balakrishnan, N., and Vidakovic, B. (eds.). New York: John Wiley & Sons.

13. Huzurbazar, A.V., and Williams, B.J. (2005). "Flowgraph Models for Complex Multistate System Reliability". In *Modern Statistical and Mathematical Methods in Reliability*, Wilson, A.G., Limnios N., Keller-McNulty, S.A., and Armijo, Y.M. (eds). Singapore: World Scientific, pp. 247-262.

14. Huzurbazar, A.V. (2005). "Flowgraph Models: A Bayesian Case Study in Construction Engineering", *Journal of Statistical Planning and Inference*, 129, 181-193.

15. Huzurbazar, A. V. (2005)."A Censored Data Histogram", *Communications in Statistics: Simulation and Computation*, 34(1), 113-120.

    Software for censored data histograms is available at
    http://www.math.unm.edu/~aparna/cdh.html

16. Williams, B.J., and Huzurbazar, A.V. (2006). "Posterior Sampling with Constructed Likelihood Functions: An Application to Flowgraph Models", *Applied Stochastic Models in Business and Industry*, 22(2), 127-137.

17. Briand, D., Campbell, J.E., and Huzurbazar, A.V. (2007). "Updating a User Friendly Combined Lifetime Failure Distribution", *Reliability and Maintainability Symposium, RAMS '07*, 311 - 316.

18. Huzurbazar, A. V. (2007). "Flowgraph Models". In *Encyclopedia of Statistics in Quality and Reliability*, Ruggeri, F., Kennett, R., and Faltin, F. (eds.). U.K.: John Wiley & Sons, pp. 684-690.

19. Wilson, A.G., and Huzurbazar, A. V. (2007). "Bayesian Networks for Multilevel System Reliability", *Reliability Engineering and System Safety*, 92, 1413-1420.

20. Briand, D., Huzurbazar, A.V., and Campbell, J.E. (2008). "Bayesian Analysis of a New Combined Lifetime Failure Distribution for Logistics and Prognostics Modeling", under revision.

21. Collins, D., and Huzurbazar, A.V. (2008). "System Reliability and Safety Assessment using Nonparametric Flowgraph Models", *Journal of Risk and Reliability*, 222(4), 667-674.

22. Briand, D. and Huzurbazar, A.V. (2008). "Bayesian Reliability Applications of a Combined Lifecycle Failure Distribution", *Journal of Risk and Reliability*, 222(4), 713-720.

23. Huzurbazar, A.V., Briand, D., and Cranwell, R.M. (2008). "Statistical reliability with applications to defense". In *Reliability Engineering Advances*, Hayworth, G. (ed.). USA: Nova Science Publishers.

24. Wilson, A.G., Huzurbazar, A. V., and Sentz, K. (2009). "The Imprecise Dirichlet Model for Multilevel System Reliability", *Journal of Statistical Theory and Practice*, 3(1), 211-223.

25. Huzurbazar, A.V., and Williams, B.J. (2010). "Incorporating Covariates in Flowgraph Models: Applications to Recurrent Event Data", *Technometrics*, 52 (2), 198-208.

Refereed Articles Under Review or Accepted for Publication

1. Warr, R., and Huzurbazar, A. (2010). Modeling Statistical Flowgraphs Using any Distribution, *Journal of Statistical Theory and Practice*, accepted for publication.

2. Anderson-Cook, C., Crowder, S., Huzurbazar, A., Lorio, J., Ringland, J., Wilson, A. (2010). Quantifying Reliability Uncertainty from Catastrophic and Margin Defects : A Proof of Concept. *Reliability Engineering and System Safety*, accepted for publication.

3. Hamada, M., Huzurbazar, A., Vander Wiel, S., Wilson, A. (2010). Assessing the risks of sampling rates for surveilling a population, *Naval Research Logistics*, under review.

4. Wilson, A., Anderson-Cook, C., and Huzurbazar, A. (2010). A Case Study for Quantifying System Reliability and Uncertainty. *Reliability Engineering and System Safety*, accepted for publication.

5. Collins, D., Anderson-Cook, C., and Huzurbazar, A. (2010). System health assessment. *Quality Engineering*, accepted for publication.

6. Collins, D. and Huzurbazar, A. (2010). Nonparametric Estimation of Flowgraph Models, under review.

7. Collins, D., and Huzurbazar, A. (2010). Prognostic Models based on Statistical Flowgraphs, under revision.

LANL Technical Reports (an incomplete list!)

1. Wilson, A. G., Anderson-Cook, C. M., and Huzurbazar, A. V. (2007). "Analysis and Data Collection Strategies for Multilevel Complex Systems" . Presented at the Mathematical Methods in Reliability Conference in Glasgow, Scotland, July 1-4, 2007. LA-UR-07-4310

2. Huzurbazar, AV, Williams, BJ, and Collins, David H. (2007). "Parametric and Nonparametric Flowgraph Models with Application to Bayesian Multistate System Reliability", viewgraphs for Joint Statistical Meetings, Salt Lake City, UT, July 29-August 2, 2007. LA-UR-07-5120.

3. Briand, D. and Huzurbazar, AV (2007). "Bayesian Reliability Applications of a Combined Lifecycle Failure Distribution", intended for journal publication, LA-UR-07-7083.

4. Collins, D. and Huzurbazar AV (2007). "Nonparametric Solution of Statistical Flowgraph Models" , intended for journal publication. LA-UR-07-7084.

5. Huzurbazar, A., and Peters, V. (2007). "Flowgraph Models for Prognostics and Health Monitoring (PHM) in Complex Systems", viewgraphs, LA-UR-07-7353.

6. Anderson-Cook, C., Huzurbazar, A., and Klamann, R. (2007) "SRFYDO Input Format", LA-UR-07-7966.

7. Anderson-Cook, C., Huzurbazar, A., Klamann, R., Lawrence, E., and Wilson, A. (2007). "Munitions Stockpile Reliability Assessment Technical Brief", LA-UR-07-1426.

8. Wilson, A., Anderson-Cook, C., and Huzurbazar, A. (2007). "Analysis and data collection strategies for multilevel complex systems", LA-UR-07-4310.

9. Huzurbazar, A. (2007) "Recent developments in modern system reliability". Presented at SNL RRP Dec 5-7, 2007 LA-UR-07-8009.

10. Huzurbazar, A. (2008) "Slides in Support of Sandia National Laboratories' B-61 Reliability Meeting", Presented Jan 20, 2008 at SNL, LA-UR-08-0536.

11. Huzurbazar, A., and Williams, B.J. (2008). "Incorporating Covariates in Flowgraph Models: Applications to Recurrent Event Data" (abstract for JSM 2008) LA-UR-08-0578.

12. Huzurbazar, A. and Anderson-Cook, C. (2008). "Incorporating System Reliability Estimates into Prognostics and Health Management (PHM)" (abstract) LA-UR-08-0579.

13. Huzurbazar, A. and Williams, B.J. (2008) "Incorporating Covariates in Flowgraph Models: Applications to Recurrent Event Data" intended for journal publication, LA-UR-08-0963.

14. Anderson-Cook, C. and Huzurbazar, A. (2008). "Data-Driven Reliability Estimation for Prognostics and Health Management", article, LA-UR-08-2609.

15. Huzurbazar, A. and Anderson-Cook, C. (2008). "Predicting reliability and performance using embedded sensor technology", LA-UR-08-01218.

16. Anderson-Cook, C. and Huzurbazar, A. (2008). "Incorporating System Reliability Estimates into Prognostics and Health Management (PHM)", QMDNS Conference Durham, NC, May 21, 2008 LA-UR-08-3235.

17. Huzurbazar, A., Briand, D., and Cranwell, R.M. (2008). "Statistical reliability with applications to defense", Book Chapter, LA-UR-08-04949.

18. Anderson-Cook, C., Graves, T., Huzurbazar, A., Klamann, R., Lawrence, E. (2008) "Overview of system reliability methodology and SRFYDO", LA-UR-08-06051.

19. Huzurbazar, A. and Williams, B.J. (2008). "Incorporating covariates in flowgraph models: applications to recurrent event data", viewgraphs, LA-UR-08-05002.

20. Anderson-Cook, C., Huzurbazar, A., and Klamann, R. (2008). *Calculating System Reliability with SRFYDO: A User Guide.* LA-UR-08-06161.

21. Zocco, T., Larson, S., Teter, D., Lillard, J., Huzurbazar, A., Morales, L. (2008). "LANL ESC FY08 Annual Review for NA-115 (U)", LA-CP-08-01120.

22. Zocco, T., Huzurbazar, A., Larson, S., Stephens, S., Teter, D., Lillard, J., (2008). "ESC Quarterly Review 3QFY08 (U)", LA-CP-08-00890.

23. Higdon, D., Williams, B., Nelson, R., Anderson - Cook, C., Gattiker, J., Huzurbazar, A., Moore, L., Picard, R., Press, W., Wallstrom, T., Bornn, L. (2008). "QMU for advanced certification: identifying existing limitations with discussions of solution strategies", LA-UR-08-06887.

24. Zocco, T., Lillard, J., Larson, S., Huzurbazar, A., Hills, C. (2008). "ESC quarterly review 1QFY09", LA-CP-09-00055.

25. Huzurbazar, A., Anderson-Cook, C., and Wilson, A. (2009). "Reliability Uncertainty Aggregation for the B-61", report, LA-UR 09-00172.

26. Huzurbazar, A. (2009). "Reliability uncertainty aggregation: Proof-of-Concept for the B-61", LA-UR-09-06070.

27. Huzurbazar, A. (2009). "Data-Driven Reliability Estimation for Prognostics and Health Management", viewgraphs, LA-UR-09-03265.

28. Collins, D. and Huzurbazar, A. (2009). "Fourier-series inversion of empirical Laplace transforms", article, LA-UR 09-03450.

29. Huzurbazar, A. (2009). "ESC annual assessment input briefing for the B-61 from the systems MTE (U)", viewgraphs, LA-CP-09-00332.

30. Huzurbazar, A. (2009). "ESC annual assessment input briefing for the W-78 from the systems MTE (U)", viewgraphs, LA-CP-09-00333.

31. Huzurbazar, A. (2009). "ESC Annual Assessment Input Briefing for the W-76 from the Systems MTE (U)", viewgraphs, LA-CP-09-00338.

32. Huzurbazar, A. (2009). "ESC Annual Assessment Input Briefing for the W-88 from the system MTE (U)", viewgraphs, LA-CP-09-00331.

33. Zocco, T., Lillard, J., Larson, S., Huzurbazar, A. (2009). "Los Alamos National Laboratory Enhanced Surveillance Campaign FY09-FY11 Execution Plan(U)", LA-CP-09-00672.

34. Lillard, J., Larson, S., Morales, L., Hemphill, D., Huzurbazar, A., and Zocco, T. (2009). "Enhanced Surveillance Campaign Input to the LANL FY09 Annual Assessment Report (U)". LA-CP-09-00582.

35. Monroe, D., Huzurbazar, A., Kelly, E., Wilson, A., Ceman, D., Trujillo, J., Borovina, D. (2009). "An Element of Test Fire Optimization: Detonator Reliability for Potential Future Designs (Preliminary Report) OUO", LA-CP-09-00726.

36. Huzurbazar, A. (2009). "Risk and reliability issues in enhanced surveillance", LA-UR-09-02129.

37. Huzurbazar, A. (2009). "Joint Munitions Program: Applications to DOE Systems (U)." Viewgraphs, presented to DOE-HQ. LA-CP-09-00804.

38. Huzurbazar, A. and Anderson-Cook, C. (2009). "Overview of Reliability and Resource allocation methods", viewgraphs, LA-UR-09-06074.

39. Hamada, M., Huzurbazar, A., Vander Wiel, S., and Wilson, A. (2009). "Understanding the risks of sampling rates for surveillance ", LA-UR-09-02777.

40. Hamada, M., Huzurbazar, A., Vander Wiel, S. (2009). "A suite of surveillance metrics", viewgraphs, LA-UR 09-08220.

41. John F. Lorio, Michael A. Dvorack, Michael J. Mundt, Kathleen V. Diegert, James T. Ringland, and Rena Zurn, Sandia National Laboratories; Christine Anderson-Cook, Aparna Huzurbazar, Alyson Wilson, and Quinn Fatherley, Los Alamos National Laboratory; Quantifying Reliability Uncertainty: A Proof of Concept, Joint LANL-SNL Technical Report. SAND2009-2173.

42. Anderson-Cook, C., Crowder, S., Huzurbazar, A., Lorio, J., Ringland, J., Wilson, A. (2010). Quantifying Reliability Uncertainty from Catastrophic and Margin Defects : A Proof of Concept, LA-UR-10-01564.

43. Collins, D., Anderson-Cook, C., and Huzurbazar, A. (2010). System Health Assessment. LA-UR-10-01401

44. Huzurbazar, A., Higdon, D., Vander Wiel, S., Anderson-Cook, C., Collins, D. (2010). "Strategies for Future System Health Assessments", LA-CP-10-00439. Poster presentation for ESC Biennial Review.

45. Huzurbazar, A. (2010). "Los Alamos National Laboratory: Statistical Methods used in Defense and Non-Defense Applications", LA-UR-10-05017.

46. Collins, David H ; Huzurbazar, Aparna V ; Williams, Brian J. (2010). Flowgraph analysis of RISMC passives benchmark I. LA-UR-10-05812

47. Collins, David H ; Huzurbazar, Aparna V ; Williams, Brian J. (2010). Alternatives to constant-hazard models for piping failures. LA-UR-10-04862.

48. Anderson-cook, Christine M ; Huzurbazar, Aparna V (2010). Statistical software tools for estimating system reliability. LA-UR-10-01565 ; 2010

49. .Collins, David H ; Huzurbazar, Aparma V ; Anderson - Cook, Christine (2010). Statistical tools for prognostics and health management of complex systems. LA-UR-10-01921.

50. Huzurbazar, Aparna (2010). Strategy for future system health assessments (U) LA-CP-10-00439.

Other Writings: Technical Reports, Book Reviews, etc.

Butler, R.W. and Huzurbazar, A.V. (1993). "Prediction in Stochastic Networks", invited paper, *Proceedings of the International Statistical Institute*, Florence, Italy.

Huzurbazar, A.V. (1995). Review of *Concepts in Probability and Stochastic Modeling* by Higgins, J.J. and Keller-McNulty, S. Boston: Duxbury, 1995. *Technometrics*, 37, 467.

Huzurbazar, A.V. (1997). "Computational Aspects of Data Analysis using Flowgraph Models", *Computing Science and Statistics*, 29, 445-449.

Huzurbazar, A.V. (2001). "Review of *Modeling, Analysis, Design, and Control of Stochastic Systems* by Kulkarni, V.G.", *Technometrics*, 43, 378.

Huzurbazar, A.V. (2001). "Review of *Statistical Analysis of Medical Data: New Developments* edited by Everitt, B.S. and Dunn, G.", *Statistical Methods for Medical Research*, 10, 77-82.

Keller-McNulty, S., and Huzurbazar, A.V. (2005). "Committee of Presidents of Statistical Societies". In *The Encyclopedia of Biostatistics*, 2nd edition, Armitage, P., and Colton, T. (eds.). New York: John Wiley & Sons.

Recognition by National Appointments for Statistical Societies

1. Committee on Nominations, Section on Bayesian Statistical Science, American Statistical Association (1996-1997).

2. Director of Young Statisticians, International Indian Statistical Association (1997-1999).

3. Institute of Mathematical Statistics Committee of New Researchers (1996-1998).

4. American Statistical Association Council of Chapters Nominating Committee (1998-1999).

5. Vice-Chair of American Statistical Association Committee of Representatives to the American Association for the Advancement of Science (1998-2001).

6. American Statistical Association Representative to Section P, Industrial Science and Technology, of the American Association for the Advancement of Science (1996-1999, and 1999-2002).

7. International Biometric Society ENAR/WNAR Representative to Section U, Statistics, of the American Association for the Advancement of Science (2003-2005).

8. Secretary/Treasurer of the Committee of Presidents of Statistics Societies (COPSS) (2001-2003). The Committee consists of Presidents, Past-Presidents, and President-Elects of the the following statistics societies: Institute of Mathematical Statistics, American Statistical Association, Statistical Society of Canada, and the International Biometric Society Eastern and Western North American Regions.

9. Program Committee, Quality and Productivity Conference for the June 2007 Q&P Conference (2006-2007).

10. Evaluation Subcommittee of the American Statistical Association's Advisory Committee on Continuing Education (2006-2007).

11. Committee of Presidents of Statistics Societies Charter Committee (2006).

12. Chair, Section on Statistics in Defense and National Security Award Committee, American Statistical Association (2006-2008).

13. Elected Secretary/Treasurer, Section on Bayesian Statistical Sciences, American Statistical Association (2008-2009).

14. Elected Member-at-large, Caucus for Women in Statistics, (2009-2010).

15. Elected Secretary/Treasurer, Section on Statistics in Defense and National Security, American Statistical Association (2009-2010).

16. International Society for Bayesian Analysis (ISBA) Program Committee for 2010 ISBA Conference, (2009-2010).

17. Samuel S. Wilks Memorial Medal Committee of the American Statistical Association (2010-2012).

Conferences and Short Courses Organized

Institute of Mathematical Statistics Third North American Conference of New Researchers, Laramie, WY, July 23-26, 1997. Co-organizer: S. Huzurbazar, University of Wyoming

Short Course Organized: Bayesian Biostatistics by Professor Don Berry, Chair Biostatistics, University of Texas, MD Anderson Cancer Center, March, 2000.

Albuquerque Chapter of the American Statistical Association 2000 Annual Meeting, March 31, 2000, Santa Fe, NM.

Invited Short Course Presentations

A Tutorial Introduction to Flowgraph Models, Short Course presented to statisticians at the National Center for Epidemiology and Public Health at the Australian National University, Canberra, Australia, September 1999.

Linear Models for Hierarchical Data Structures, College of Nursing, University of New Mexico, July, 2000.

Invited Presentations

"Bayesian Predictive Distributions for the M/M/2 Queue", IMS Special Contributed Paper, Joint Statistical Meetings, San Francisco, CA, August, 1993.

"Prediction in Stochastic Networks" presented at:
  – Dept. of Statistics, University of Florida, Gainesville, FL, February, 1994.
  – Dept. of Statistics, Texas A & M University, College Station, TX, February, 1994.

"Predictive Distributions in Stochastic Systems", Joint Statistical Meetings, Toronto, Canada, August, 1994.

"Stochastic Network Models for Survival Analysis" presented at:
  – Dept. of Statistics, University of Georgia, Athens, GA, May, 1995.
  – Institute of Mathematical Statistics New Researchers' Meeting, Kingston, Ontario, July, 1995.

"Predictive Analysis for Stochastic Network Models"presented at:
  – Dept. of Statistical Science, Southern Methodist University, Dallas, TX, November, 1995.
  – Dept. of Statistics, Case Western Reserve University, Cleveland, OH, February, 1996.
  – Dept. of Mathematics and Statistics, University of New Mexico, Albuquerque, NM, February, 1996.
  – Dept. of Statistics, University of Missouri, Columbia, MO, February, 1996.
  – Dept. of Statistics, University of Wyoming, Laramie, WY, March, 1996.
  – Division of Statistics, University of California, Davis, CA, May, 1996.

"Flowgraph Models for the Analysis of Reliability Data", Third North American Conference of New Researchers in Statistics and Probability, Laramie, WY, July, 1997.

"Survival Analysis with Covariates using Flowgraphs Models", Western North American Region of the Biometric Society Annual Meeting, Park City, UT, July, 1997.

"Flowgraph Models and Saddlepoint Approximations", Centre de Researcher Mathematique Conference on Likelihood and Asymptotics, Banff, Canada, August, 1997.

"Survival Analysis with Covariates using Flowgraphs Models", M.D. Anderson Cancer Center, Houston, TX, February, 1998.

"Flowgraph Models and Competing Risks" presented at:
  – Los Alamos National Laboratories, Los Alamos, NM, November, 1998.
  – Rice University, Houston, TX, March, 1999.
  – Australian National University, September, 1999.

"Flowgraph Models for Survival Analysis", University of Colorado Health Sciences Center, Denver, CO, November, 1998.

"Flowgraph Models and other Multistate Stochastic Models", University of Pune, Statistics Summer Institute Invited Lecture, Pune, India, June, 1999.

"Flowgraph Models for Survival Analysis", The University of Newcastle, New South Wales, Australia, September, 1999.

"Flowgraph Methods and Cellular Telephones: A Research and Consulting Problem", Statistical Society of Australia, Australian Capital Territory Section Meeting, Keynote Speaker, September, 1999.

"Bayesian Methods for Likelihood Construction in Flowgraphs Models", Harvard University School of Public Health, Boston, MA, March, 2000.

"Bayesian Methods for Semi-Markov Models" presented at:
  – Second Workshop on Bayesian Inference in Stochastic Processes, Varenna (LC), Italy, June, 2001.
  – RAND Corporation, Santa Monica, CA, October, 2001.
  – University of Southern California, Los Angeles, CA, January, 2003.

"Bayesian Analysis of Semi-Markov Processes using Flowgraph Models", International Indian Statistical Association Conference, DeKalb, IL, June, 2002.

"Flowgraph Models for Multistate Time-to-Event Data" presented at
  – *NOREVENT*, Thematic Research Group on Survival and Event History Analysis at the Faculty of Medicine, University of Oslo, Norway, May, 2003.
  – University of California, Los Angeles, CA, May, 2003.
  – Mathematical Methods for Reliability Conference, Santa Fe, NM, June, 2004.
  – Los Alamos National Laboratory, Los Alamos, NM, October, 2004.

"Survival Analysis using Flowgraph Models", RAND Corp., Santa Monica, CA, June, 2003.

"V. S. Huzurbazar and the Department: A Daughters' Perspective", non-technical seminar on the history of the department invited by the Department of Statistics Golden Jubilee Celebration, University of Pune, Pune, India, December, 2003.

"Multistate Models, Flowgraph Models, and semi-Markov Processes", Department of Statistics, University of Pune, India, December, 2003.

"Bayesian Methods in Industrial Statistics", International Society for Bayesian Analysis Meeting, Vina del Mar, Chile, May, 2004.

"Analysis and Data Collection Strategies for Multilevel Complex Systems", Mathematical Methods in Reliability Conference, Glasgow, Scotland, July, 2007.

"Parametric and Non-Parametric Flowgraph Models with Application to Bayesian Multistate Systems Reliability", Joint Statistical Meetings, invited session, Salt Laky City, Utah, August, 2007.

"Flowgraph Models for Prognostics and Health Management (PHM) in Complex Systems" presented at
  – INFORMS Annual Meeting, Seattle, WA, November, 2007.
  –The Boeing Corporation, Bellevue, WA, November 2007.

"Incorporating corvariates in flowgraph models: applications to recurrent event data", Joint Statistical Meetings, Denver, CO, August 2008.

"Risk and Reliability Issues in Enhanced Surveillance", Risk Symposium 2009, Pojoaque, NM, April 2009.

"Statistical Methods used in Defense and non-Defense Applications", Invited Panel, Statistics in Defense and National Security, Joint Statistical Meetings, Vancouver, CA, August, 2010.

Sessions Chaired or Organized at National Meetings

"Statistics in Semiconductor and Electronic Industry," Session Chair for American Statistical Association Section on Physical and Engineering Sciences, Joint Statistical Meetings, Anaheim, CA, August 1997.

"Joint meeting of the Institute of Mathematical Statistics and the International Biometric Society Western North American Region (IBS/WNAR), Contributed Session VI at the IBS/WNAR Annual Meeting, Park City, Utah, July 1997.

Chaired Contributed Session, American Statistical Association Spring Research Conference on Statistics in Industry and Technology, Santa Fe, NM, June 1998.

"Testing and Discriminating (Statistically)," Session Chair for American Statistical Association Section on General Methodology, Joint Statistical Meetings, Dallas, TX, August 1998.

"Applications of State Space Modeling in the Sciences," organizer for American Statistical Association Special Contributed Session, Joint Statistical Meetings, Baltimore, MD, August 1999.

"Survival and Longitudinal Data", Session Chair for International Biometrics Conference, Berkeley, CA, June, 2000.

"Graduate Education: What For?", AAAS Symposium, co-organized with James Tsang, IBM T.J. Watson Research Center, Boston, MA, February 2002.

"Semi-Parametric Methods and Non-Standard Inferential Goals in Medical Research", organizer for International Society for Bayesian Analysis Meeting, Vina del Mar, Chile, May, 2004.

"Issues and Applications involving SPC, Lean, and Six Sigma", organizer for ASA's Quality and Productivity Research Conference, Santa Fe, NM, June, 2007.

"Innovative Models with Applications in System Reliability", organizer for Mathematical Methods in Reliability Conference, Glasgow, Scotland, July 2007.

"Conventional and Nuclear Weapons: Issues in Risk and Reliability", organizer for Risk Symposium 2009, Pojoaque, NM, April 2009.

Contributed Presentations

"Stochastic Network Models for Survival Analysis", International Biometric Conference, Hamilton, Canada, August, 1994.

"Predictive Analysis on a Stochastic Network Model for AIDS", Institute of Mathematical Statistics/Statistical Society of Canada Annual Meetings, Montreal, Quebec, July, 1995.

"Flowgraph Methods for Reliability", Joint Statistical Meetings, Chicago, IL, August, 1996.

"Flowgraph Methods for Stochastic Networks", International Society of Bayesian Analysis Annual Meeting, Univ. of Chicago, August, 1996.

"Analysis of Reliability Data using Flowgraph Models", American Statistical Association Annual Meeting, Anaheim, CA, August, 1997.

"Graphical Semi-Markov Models (Flowgraph Models): Distinctions from Graphical Markov Models", Seattle Conference on Graphical Markov Models and Bayesian Belief Networks, Seattle, WA, June, 1997.

"Computational Aspects of Data Analysis using Flowgraph Models", Interface '97 Conference, Houston, TX, May, 1997.

"Survival Analysis with Flowgraph Models", International Biometric Society Annual Meeting, Capetown, South Africa, December, 1998.

"Analysis of Time-to-Event Data using Flowgraph Models", ASA Spring Research Conference on Statistics In Industry and Technology, Santa Fe, NM, June, 1998.

"Prediction of KC 135 Tanker Availability for the U. S. Air Force", INFORMS Conference, Atlanta, GA, October, 2002.

"Bayesian Analysis for Semi-Markov Processes using Flowgraph Models", Third Conference on Mathematical Models for Reliability, Trondheim, Norway, June, 2002.

"Flowgraph Models: Multistate Models with Covariates for Survival Analysis", International Biometrics Conference, Cairns, Australia, July 2004.

"Data-Driven Reliability Estimation for Prognostics and Health Management":
— Spring Research Conference on Statistics in Industry and Technology, Vancouver, Canada, May, 2009. — INFORMS Annual Meeting, San Diego, CA, October, 2009.

Doctoral Advisement at the University of New Mexico

Lillian Yau (Ph.D., 2002). Dissertation: *Analysis of Censored and Incomplete Data using Flowgraph models.* Dr. Yau is a tenure-track Assistant Professor, Department of Biostatistics, Tulane University, New Orleans, LA.

Dan Briand (Ph.D., 2007) Dissertation: *Applying Bayesian Updating Methods to a New Combined Lifecycle Failure Distribution.* Dr. Briand is Member of the Technical Staff in Global Securities at Sandia National Laboratories, Albuquerque, NM.

Dave Collins (Ph.D., 2009, with Distinction). *Nonparametric solution to flowgraph models.* Dr. Collins is Postdoctoral Associate, Los Alamos National Laboratory, Los Alamos, NM.

Richard Warr (Ph.D., 2010, with Distinction). *Generalizations of the Statistical Flowgraph Model Framework.* Dr Warr is an Assistant Professor in the Department of Statistics at Air Force Institute of Technology, Dayton, OH.

Masters Advisement at the University of New Mexico
Thesis titles are given for thesis option students.

Joe Baca (M.S., 2000), Guy Brock (M.S., 2000), Van Nguyen (M.S., 2000).

Kimmer Reid (M.S., 2001).

Anna Canamucio (M.S., 2004).

Andrea Edwards (M.S., 2005). Thesis: *Small Fleet Maintenance Dynamics: Investigating U.S. Air Force Maintenance Standards Dynamics for Kirtland Air Force Base, N.M.*

Cynthia Bothwell (M.S., 2006), Tamara Brown (M.S., 2006), Valerie Peters (M.S., 2006).

Dorothy Baumer (M.S., 2007), Shawn Marris (M.S., 2007).

Lucinda Sydow (MS, 2007). Thesis: *American Indian Returns to Higher Education.*

Sumner Williams (MS, 2009). Thesis: *Using control charts to detect anomalous morphological measurements in brain imaging.*

Professional Service

See also national appointments listed previously.

Hiring Committee, CCS-6 (2009).

LDRD CIK-ER Committee (2009).

Referee for Journals: *American Journal of Public Health, Applied Stochastic Models in Business and Industry, Communications in Statistics: Theory and Methods, Computational Statistics and Data Analysis, Journal of Statistics Planning and Inference, Journal of the American Statistical Association, Lifetime Data Analysis, Naval Research Logistics, RAIRO Operations Research, Reliability Engineering and System Safety, Statistical Science, Statistics and Probability Letters, Technometrics, TEST, The American Statistician.*

Referee for Funding agencies: National Science Foundation.

Reviewer of Manuscripts for Publishers: Springer-Verlag, ITP Thompson Publishing, John Wiley & Sons.

Chapter President, Albuquerque Chapter of the American Statistical Association, 1999-2000.

Chapter Vice-President, Albuquerque Chapter of the American Statistical Association, 1998-1999.

Albuquerque Chapter Representative to ASA, 1996-1998.

Special Awards Judge for the American Statistical Association Albuquerque Chapter, New Mexico State Science Fair Finals, 1996-2002.